RCRA Corrective Action: The Kansas Experience



2016 Kansas Environmental Conference KDHE-Bureau of Waste Management

Purpose of RCRA Corrective Action

EPA:

To ensure that facilities that treat, store or dispose of hazardous wastes <u>investigate</u> and <u>clean up</u> hazardous <u>releases</u> into soil, ground water, surface water and air

Measuring Success (Environmental Indicators):

- Human Exposures Under Control (CA725)
- Migration Of Contaminated Groundwater Under Control (CA750)
- Final Remedy Construction
- Performance Standards Attained



Our Kansas Universe

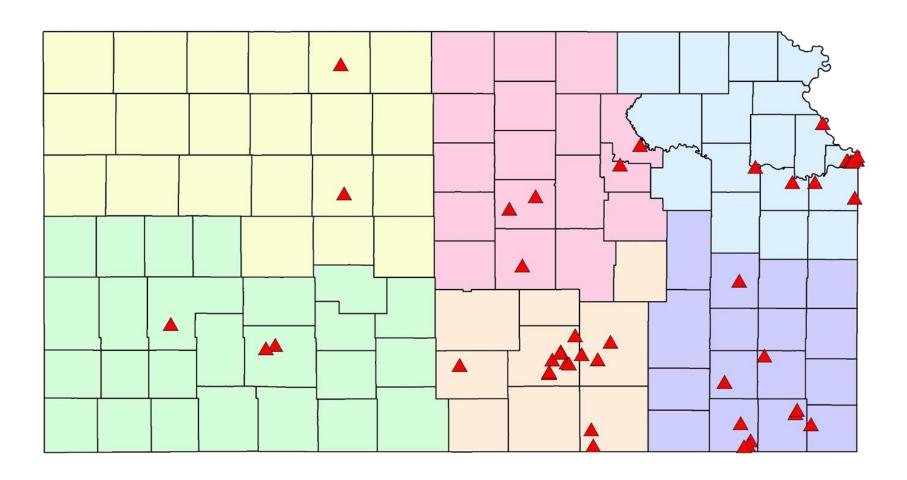
- 49 Facilities are subject to RCRA corrective action
 - **18** Facilities have an EPA or state-issued order or agreement
 - 11 Facilities were referred to CA for closure and/or have CA-only permits
 - **9** Facilities have operating permits
 - **8** Facilities with interims
 - 4 Facilities are permitted and closing
 - **5** Facilities have PC permits
 - 3 Facilities that are non-notifiers (illegal)

Kansas received authority to administer RCRA CA in September 2013





49 Kansas Facilities in CA





RCRA CA Steps (the Long Way)

- RFA (RCRA Facility Assessment) complete
- Avg10 yrs -- RFI (RCRA Facility Investigation)
- Avg 6 yrs -- CMS (Corrective Measures Study)
- Avg 6 yrs -- Remedy decision and construction
 - Risk assessment
 - Establishing engineering and/or institutional controls
 - CA process terminated: no further action (NFA) or remedial activities complete

It may take a
LONG time
to reach



No Further Action



The RCRA *First* Alternative

(Facilities Investigation Remedy Selection Track)

- Streamlined approach for RFI and remedy selection
- Address root causes of delay
- Multi-party understanding and coordination
- Enhance communication among project stakeholders
- Promote principle of "done right the first time"
- Advances critical decision-making through rapid elevation to resolve disputes
- Stays within the technical or regulatory framework of CA



The RCRA First Alternative (cont'd)

(Facilities Investigation Remedy Selection Track)

4 key improvements over traditional CA approach

- 1. Early understanding of goals and expectations
- 2. Understanding CA objectives prior to remedy selection
- 3. Elevation of issues when needed and engagement of stakeholders at key points
- 4. Three paths for remedy selection-
 - 1) No Corrective Measures Study (CMS) -
 - 2) Limited CMS
 - 3) Full CMS



RCRA FIRST CA Steps

- RFA (RCRA Facility Assessment) complete
- RFI planning
 - Investigation objectives and CA framework (CAF)
 - Work plan received/approved
- RFI completion
 - 。 RFI implementation
 - Data sufficiency meeting >> report received/approved
- Remedy selection
 - Parties agree on CA objectives in the remedy selection process (RSP) meeting
 - Determine if CMS is needed → less than 2 years
 - RSP is finalized = statement of basis and final remedy decision
- Risk assessment
- Establishing engineering and/or institutional controls
- CA process terminated: no further action (NFA) or remedial activities complete

Reduced from _ 10 to 5 Years!

from 6 to 1-2 Years!



CA Performance Standards

- Carcinogenic risk level -- 10⁻⁴ to 10⁻⁶ is considered acceptable and protective
- 10⁻⁶ should be used as a "point of departure" when developing site-specific RCRA clean-up standards
- Risk-Based Standards for Kansas [RSK Manual] may be used as a screening tool
- Sites will require QAPP for CA activities; the state will use a generic QAPP
- CA activities and the above performance standards are implemented and attained through <u>permits</u> or <u>orders</u> with facilities

CA Permits

- EPA-issued permits will be enforced by EPA
- EPA has issued CA permits where KDHE is lead
- KDHE-issued CA-only permits prior to be given RCRA CA authority;
 - now KDHE has authority to enforce those permits
- Transfer of authority (EPA to the State) will take place during permit renewal, revoke and reissue, etc.
- All transfers will be based on available state resources and a mutually acceptable schedule



CA Orders

- CA orders may be issued under state or EPA authority
- BWM uses orders mainly to address financial responsibilities
- EPA/BER uses orders to conduct site activities
- Each agency or bureau will be responsible for enforcing their respective orders



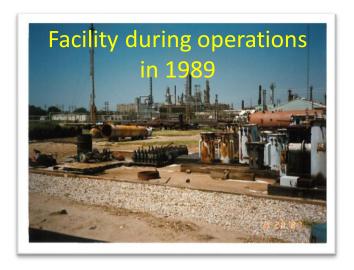
Former Petroleum Refinery Past Timeline South Central Kansas

- 1920s Refining operations began
- Aug 1987 RFA completed
- Nov 1987 RCRA permit issued
- 1990-2001 RFI investigations
- 1996 Refinery operations ceased
- Oct 2001 RCRA permit issued and groundwater CA initiated
- 2003 Demolition activity
- 2007 KDHE designated as lead
- Sep 2012 RCRA permit renewal
- 2010-2015 Supplemental investigations
- 2015-Present Human health and ecological risk assessments





Former Petroleum Refinery Path Forward South Central Kansas

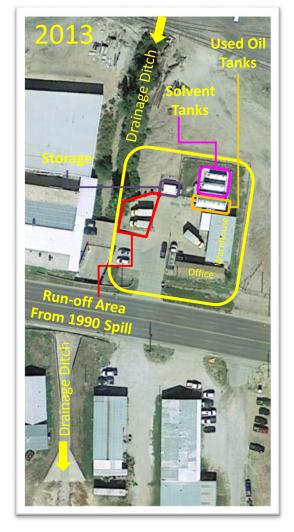


- Determine human health and ecological risks
- Use RCRA FIRST process to expedite the corrective measures decision process
- Streamline decision making process by transitioning all CA authority from EPA to KDHE
- KDHE approval of a corrective measures decision and permit by <u>2018</u>



Former Industrial Waste Storage Facility

Southwest Kansas









Former Industrial Waste Storage Facility Southwest Kansas

Timeline

- 1975 Storage operations began
- 1989 RFA completed
- Feb 1990 9,000 gallons spent stoddard solvent spill from UST
- 1992 RCRA permit issued
- 1993 Partial tank closure
- 2006 RCRA permit renewal
- Apr 2014 KDHE RCRA permit renewal/KDHE oversight of both operating and CA
- Oct 2014 Facility begins closure process due to ongoing flash flood issues
- Apr 2015 Closure plan approved
- May 2016 RFI work plan approved
- July 2016 RFI field work



Former Industrial Waste Storage Facility

Southwest Kansas



2016 RFI Activities

- Historically, little was done to delineate or clean-up the 1990 solvent spill; therefore, the 2014 Permit called for an investigation
- Contamination was found in high quantities in the soil surrounding the spill location
- Horizontal impacts have been delineated;

 vertical impacts need determined
 - July 2016, three deep groundwater wells were installed; shallow borings for soil venting (the presumptive site remedy)





Former Lead Smelter

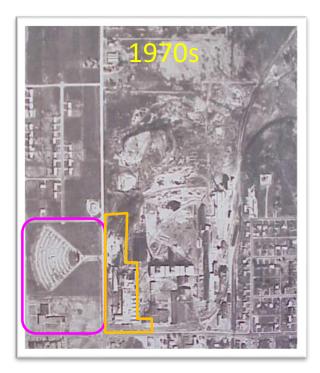
Southwest Kansas

Former Lead Smelter Timeline Southwest Kansas

- 1906 Smelter operations began
- 1980 Obtained interim status
- 1982 Smelter operations ceased
- 1986-1988 Closed regulated units
- 1988 RCRA permit issued
- 1994 Permit modification
- 2002 Offsite residential area remediation complete
- 2004 PC permit issued/new school opened on remediated adjacent property/recreational reuse area constructed
- 2005 Recreational reuse area dedicated
- 2008 Ready for anticipated use
- 2013-Present Working on PC permit renewal, groundwater monitoring

Former Lead Smelter Timeline

Southwest Kansas





Community revitalization and land reuse of a RCRA site



Assets for community use

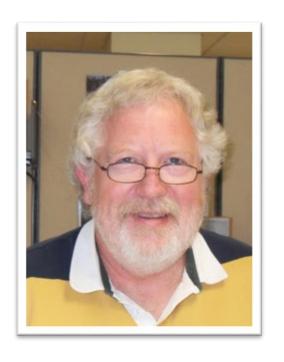


Cooperative efforts by industry, KDHE, and local community





Sorry I couldn't be with you today, so call or stop by in a month or two!



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Questions



